

I Claim:

1. A device for converting a rotational movement into a reciprocating movement, comprising:

at least one cam element mounted on a driven support shaft for rotation about an axis of rotation, said cam element having an eccentric control surface driven by said support shaft;

a cam follower element mounted for displacement or pivoting by said cam element and for bearing on a non-driven bearing surface;

a flexible enclosing element connected to said cam follower element, said flexible enclosing element enclosing said cam element while allowing said cam element to rotate therein and moving said flexible enclosing element in a plane perpendicular to said axis of rotation of said cam element, and said flexible enclosing element surrounding said non-driven bearing surface for said cam follower element.

2. The device according to claim 1 configured as a cam control device.

3. The device according to claim 1, wherein said cam follower element is a valve tappet for a valve in an internal combustion engine of a motor vehicle.

4. The device according to claim 1, wherein said non-driven bearing surface is formed on a bearing element of said support shaft, said bearing element rotatably mounted relative to at least one of said support shaft and said cam element.

5. The device according to claim 1, which further comprises a roller bearing disposed between said bearing element and at least one of said support shaft and said cam element.

6. The device according to claim 4, wherein said bearing element has an annular end region, and said cam element has a central part mounted inside said annular end region.

7. The device according to claim 1, which comprises a relatively stationary guide, and wherein an end of said cam follower element connected to said enclosing element is guided in said guide.

8. The device according to claim 1, which comprises a roller bearing disposed in said eccentric control surface of said cam element.

9. The device according to claim 8, wherein said roller bearing includes at least one rotatably mounted roller.

10. The device according to claim 8, wherein said support shaft and said cam element are formed with feed ducts for feeding a friction-reducing medium to said bearing surfaces of said roller bearing and to said eccentric control surface.

11. The device according to claim 1, wherein said support shaft and said cam element are formed with feed ducts for feeding a friction-reducing medium to said eccentric control surface.

12. The device according to claim 1, which comprises a bearing pin articulating said cam follower element to said enclosing element, and an elastic element biasing said bearing pin against said bearing surface, and wherein said bearing surface is fixed on the device.

13. The device according to claim 12, wherein said bearing pin is formed with at least one exposed end region, and an elastically flexible strip is guided around said exposed end region and said bearing element.

14. The device according to claim 13, wherein said flexible strip is formed of a material selected from the group consisting of steel and rubber.

15. The device according to claim 1, wherein said cam element is disposed on said support shaft to be radially extendable and retractable, and said enclosing element is an elastic element.

16. The device according to claim 15, which comprises rising control surfaces formed between said radially extendable and retractable cam element and said support shaft.

17. The device according to claim 15, which comprises a control shaft movably disposed in said support shaft, and rising control surfaces formed between said radially extendable and retractable cam element and said control shaft.

18. The device according to claim 15, wherein said radially extendable and retractable cam element is guided in a constrained manner.

19. A device for converting a rotational movement into a reciprocating movement, comprising:

a driven support shaft mounted for rotation about an axis of rotation;

a cam element mounted on said driven support shaft, said cam element having an eccentric control surface;

a non-driven bearing surface mounted on said driven support shaft;

a cam follower element mounted for displacement or pivoting by said cam element;

a flexible enclosing element connected to said cam follower element and surrounding said cam element and said non-driven bearing surface;

said flexible enclosing element flexibly moving in a radial direction relative to said axis of rotation as said cam element rotates therein, following said eccentric control surface and bearing against said non-driven bearing surface.